Subject Index

A
Advisory systems, expert systems vs., 11:71
Algorithms
  analyzing concurrent software systems using derivatives with, 11:3
  fault-tolerant mutual exclusion, 11:111
  load balancing and sender-initiated, 11:79
  mod(k) lists, local correction of, 11:205
  real-time garbage collection, 11:181
Analytical Software Size Estimation Technique-Real-Times (ASSET-R), review of, 11:159
Anomaly, resolution of software science, 12:167, 12:170
Asia, software technology and, 12:74, 12:77
Asynchronous network, fault-tolerant broadcasts and, 11:131
Automatic programming, 13:85

B
Behavioral synthesis program, Hermod, 13:39
Broadcasts, efficient fault-tolerant, 11:131
Buffered message-passing, communication comparison in two languages employing, 12:87
Build operations, modular systems and, 13:157
Buyer's perspective, software quality assurance through measurements and, 13:117

C
CAI design, interfaces and, 11:199
Calculus, predicate, resource-deadlock prone Petri nets and, 11:53
China, computers in elementary schools in (editorial), 12:1
Classification trees, evaluating techniques for generating metric-based, 12:209
Closely coupled and loosely coupled architecture, performance comparison of, 13:201
Combined control and data flow graphic (C/DFG), Hermod and, 13:39
Complexity theory, metrics for, 12:55
Computations, time-cost analysis of sequential, 11:173
Computer science, The Tenth Tunisian-French Seminar of, 12:83
Computers, elementary school education in China and (editorial), 12:1
Concurrent systems
  analyzing algorithms using derivatives, 11:3
  high-level programming of, 11:21
Cost and schedule estimation, utility of historical project statistics for, 13:71
Costs, software project management and, 13:231

D
Damage assessment, executable assertions for error detection and, 12:15
Data analysis, software metrics and, 12:271
Data base
  distributed, 11:95
  fault tolerance on a hypercube in, 13:25
  long-living transactions and, 11:45
Data flow patterns, STAD and, 12:3
Deadlock, detection and correction of, 11:53
Debugging
  data flow testing in STAD, 12:3
  GOTO statement and, 11:217
  program slicing and, 13:187
  software maintenance and, 11:77
Decision makers, expert systems and human, 11:71
Derivatives, algorithms for analyzing concurrent software systems using, 11:3
Design methodology, software (design), 11:1
Distributed data base management, object-oriented approach to, 11:95
Distributed systems
  distributed data manager and, 11:95
  efficient fault-tolerant broadcasts and, 11:131
  fault-tolerant mutual exclusion algorithms and, 11:111
  specification in Prolog, 11:143
  VAXcluster and Ethernet-based distributed system architecture, 13:201
Double-linked lists, mod(k) lists, 11:205

E
Education
  computer use in China and (editorial), 12:1
  theory vs. practice (editorial), 12:81
Efficiency, software maintenance and, 11:77
Efficient fault-tolerant broadcasts, 11:131
Elementary school education, computer use in China and (editorial), 12:1
Error detection
  executable assertions for damage assessment and, 12:15
  software maintenance and, 11:77
Errors, local correction of mod(k) lists, 11:205
ESPRIT program, METKIT and, 12:219, 12:223, 12:233
Ethics, software engineering, 11:215
Expert systems, advisory systems vs., 11:71
Expressions, incremental parsing of, 13:55

F
Factor analysis, source code metrics and, 12:263
Fault tolerance, hypercube and, 13:25
Fault-tolerant mutual exclusion algorithm, 11:111
Fault-tolerant programs, 12:15
Findphrases, repeated phrase finder in requirements extraction, 13:209
Function point sizing tool, scientific and real-time systems and, 11:159

G
Garbage collection, general-purpose machines and real-time, 11:181
General-purpose machines, real-time garbage collection on, 11:181
Gorbachev, Mikhail, software productivity and (editorial), 13:151
GOTO statement, empirical study of use of, 11:217

H
Header nodes, local correction of mod(k) lists, 11:205
Hermod behavioral synthesis system, 13:39
HIBOL-2 environment, visual programming of business objects and, 12:157

Horn clauses, 11:143
Human decision maker, expert systems and, 11:71
Hypercube, data base application of fault tolerance on, 13:25

I
Incremental parsing, expressions and, 13:55
Integer programming, test selection and, 13:177
Interface design, educational perspective on, 11:199

J
Journals, professional, reference use in (editorial), 11:157

L
Languages
  access control language for object-oriented programming systems, 13:3
  parallel programming, 12:87
  programming and role of, 12:83
  SFW, 12:125
  TRIO, a logic language for specifying real-time systems, 12:107
Load balancing
  dynamic, 11:79
  sender-initiated algorithm and, 11:79
Logic programming, Prolog-based specifications in distributed systems and, 11:143
Logic programming environment, secondary storage in a concurrent, 11:31
Long-living transactions, management of, 11:45
Lotus 1-2-3, critique of, 13:198

M
Maintenance, software, 11:77
Measurements, software quality assurance through, 13:117
METKIT, ESPRIT program and, 12:219, 12:223, 12:233
Metric-based classification trees, evaluating techniques for generating, 12:209
Metrics
  complexity theory and, 12:55
  data analysis for software, 12:271
  design and code traceability using PDL metrics tool, 12:189
  factor analysis of source code, 12:263
  generalized software process-integrated metrics framework, 12:249
  international survey of software measurement education and training, 12:233
METKIT and ESPRIT program, 12:219, 12:223, 12:233
The Oregon Workshop on Software, 12:175
plagiarism detection and software, 13:131
prediction and control of Ada software defects, 12:199
process maturity framework and, 12:255
programming training tool and software, 13:139
quantitative process management in software engineering, 12:243
software development environment and, 13:89
software measurement philosophy, 12:277
software project management and relative complexity metric, 12:283
structurally based software measures, 12:177
user's perspective on software, 13:97, 13:111
using software, 13:87
workshop on software, 12:175
Mod(k) lists, local correction of, 11:205
Modular systems, build operations and, 13:157
Mutual exclusion algorithms, fault-tolerant, 11:111

O
Object-oriented knowledge base, programming of concurrent systems and, 11:21
Object-oriented systems
  access control language for, 13:3
  distributed data management and, 11:95
  programming, 11:21
  relationships between objects in, 12:139
The Oregon Workshop on Software Metrics, 12:175

P
Parsing, incremental parsing of expressions, 13:55
Parsing strings, CFPGs and, 12:43
Plagiarism detection, software metrics and, 13:131
Practice vs. theory (editorial), 12:81
Probalistic grammars, production probabilities for context-free, 12:43
Process and product views, software engineering and reconciliation between, 12:243
Process maturity framework, software metrics in, 12:255
Production probability estimation, context-free probabilistic grammars (CFPG) and, 12:43
Productivity
  Gorbachev, Mikhail and software (editorial), 13:151
  software maintenance and, 11:77
Program design language, complexity metrics and, 12:189
Program slicing, debugging and, 13:187
Programming
  automatic (editorial), 13:85
  HIBOL-2 environment and visual, 12:157
  high-level programming of concurrent systems, 11:21
  language role in, 12:83
  parallel programming languages, 12:87
  programming training tool, software metrics as, 13:139
  secondary storage in logic programming environment, 11:31
  software metrics as programming training tool, 13:139
  spreadsheet macro programming, 13:197
  "structured revolution" (editorial), 13:1
Programs, dynamic slicing of computer, 13:187
Project management, relative complexity metric for software, 12:283
Prolog, specifications of distributed systems in, 11:143

Q
Quality, software quality assurance through measurements, 13:117
Quantitative software estimation models, development of, 13:71

R
Real-time garbage collection, general-purpose machines and, 11:181
Real-time systems, formal specification language for, 12:107
References, professional journals and use of (editorial), 11:157
Relationships, object-oriented systems and, 12:139
Relative complexity metric, software project management and, 12:283
Requirements extraction, repeated phrase finder in, 13:209
Resource-deadlock prone Petri nets
  formal specifications of, 11:53
  predicate calculus and, 11:53

S

Scheduling difficulties, long-living transactions and, 11:45
Scientific and real-time systems, function point sizing tool for, 11:159
Secondary storage, logic programming environment and, 11:31
Sender-initiated algorithm, load balancing and, 11:79
Sequential computations, time costs of, 11:173
SFW-TOOL, software system structure support with SFW and, 12:125
Software, quality measurement of, 11:173
Software accumulation, models of, 12:39
Software components, metric-based classification trees and, 12:209
Software defects, prediction and control of Ada, 12:199
Software design
  design and code traceability using PDL metrics tool, 12:189
  methodology of (editorial), 11:1
  representation in (editorial), 11:1
Software development
  accumulation process and, 12:39
  cost and schedule estimation, 13:71
  costs in, 13:231
  HIBOL-2 environment, 12:157
  quality levels in, 12:39
  structural complexity measurement, 12:55
  structuring concepts in, 12:125
Software development environment, integrating metrics into a large-scale, 13:89
Software engineering
  development of, 13:153
  ethics in, 11:215
  fault tolerance in, 12:15
  quantitative process management in, 12:243
  structurally based software measures, 12:177
Software estimation, research practices in, 13:71
Software maintenance
  debugging, error detection, productivity, and efficency in, 11:77
  problem of, 11:77
Software measurement
  conceptual framework for, 12:223
  international survey of education and training for, 12:223
  philosophy for, 12:277
Software metrics
  See also Metrics
  workshop on, 12:175
Software process-integrated metrics framework, USPP and, 12:249
Software productivity, Gorbachev, Mikhail and (editorial), 13:151
Software project management, improving, 13:231
Software quality, measurements and, 13:117
Software science anomaly, resolution of, 12:167, 12:170
Software size estimation, scientific and real-time systems and, 11:159
Software systems
  algorithms for analyzing concurrent software systems using derivatives, 11:3
  support of common structural levels for, 12:125
Software technology
  Asia and, 12:74, 12:77
  United States' leadership in, 12:71, 12:77
Spreadsheet macro programming, Lotus 1-2-3, 13:197
Storage, nonvolatile, 11:31
Structural complexity, measuring program, 12:55
Structurally based software measures, deriving, 12:177
"Structured Revolution," some measured results of (editorial), 13:1
Structured Selection, hybrid knowledge-based approach to, 13:13
Structuring Framework (SFW), software system structure support with SFW-TOOL and, 12:125
System for Testing and Debugging (STAD), data flow testing in, 12:3

T

Target, local correction of mod(k) lists, 11:205
The Tenth Tunisian-French Seminar of Computer Science, role of languages in programming, 12:83
Test selection, methodology for, 13:177
Testing, STAD and data flow, 12:3
Theory vs. practice (editorial), 12:81
Time-cost analysis, sequential computations and, 11:173
Transaction processing systems, 11:45
Transformations, data analysis for software metrics, 12:271
Tree-representation, incremental parsing of expressions and, 13:55
TRIO, logic language for executable specifications of real-time systems, 12:107

U

United States, software technology leadership by, 12:71, 12:77
User satisfaction and profitability to the producer (USPP), software process-integrated metrics framework and, 12:249
User's perspective on software metrics, 13:97, 13:111
Users' experience, interface design and, 11:199

V

VAXcluster and Ethernet-based distributed system architecture performance comparison of, 13:201

Author Index

Abdel-Hamid, T. K., 13:71
Adamov, R., 12:55
Agresti, W. W., 12:167
Aguilera, C., 13:209
Ah-Chuen, R., 13:97
Ammar, R. A., 11:173

Baker, A. L., 12:277
Benander, A. C., 11:217
Benander, B. A., 11:217
Berry, D. M., 13:209
Bhide, S., 12:249
Bieman, J. M., 12:277
Blank, T., 13:39
Bowman, B. J., 13:139
Brahmadathan, K., 11:45
Bush, M., 12:219
Bush, M. E., 12:223
Buxton, J. N., 13:153

Card, D. N., 12:167
Compton, B. T., 12:199
Cook, C. R., 12:189
Cooke, D. E., 11:53
Coupal, D., 12:263

Davis, I. J., 11:205
Dehnad, K., 13:111

Fenton, N. E., 12:177, 12:223, 12:277
Finance, J. P., 12:83
Ford, R., 13:157
Frankel, R., 13:13
Freidel, D., 12:87
Frieder, O., 13:25

Ghezzi, C., 12:107
Glass, R. L., 11:1, 11:77, 11:157, 12:1, 12:81, 13:1, 13:85, 13:151
Gorla, N., 11:217
Gotterbarn, D., 11:215
Gustafson, D. A., 12:277

Hać, A., 11:79, 13:201
Harrison, W., 12:175, 13:87
He, X., 13:177
Heeman, F. C., 13:55
Henry, S., 13:89
Hon, S. E. III, 13:117
Humenik, K., 12:43
Hwang, S. Y., 13:39

Intrator, Y., 12:139

Jaoua, A., 12:15
Jin, X., 11:79
Johnson, T. J., 13:201
Jones, A. R., 11:199

Khoshgoftaar, T. M., 12:283
Korel, B., 13:187
Kusalik, A. J., 11:31

Lanphar, R., 12:243
Laski, J., 12:3, 13:187
Lee, J. A. N., 13:177
Lewis, J., 13:89
Litecky, C., 13:197

Mandrioli, D., 12:107
Marinos, L., 11:95
Marlin, C., 12:87
McGowan, C., 12:255
Melton, A., 12:177, 12:277
Mili, A., 12:15, 12:83
Mili, H., 12:139
Mishra, S., 11:111
Mittermeir, R., 12:157
Mizuno, M., 13:3
Morzenti, A., 12:107
Motschnig-Pitrik, R., 12:125
Munson, J. C., 12:283
Myrvold, A., 12:271

Newman, W. A., 13:139

Odani, M., 13:39
Oldehoeft, A. E., 13:3
Oman, P. W., 12:189

Papazoglou, M. P., 11:95
Pfleeger, S. L., 12:255
Pinkham, R. S., 12:43
Porter, A. A., 12:209
Pressman, I., 11:75
Pulk, B. E., 13:231

Qin, B., 11:173

Ramarao, K. V. S., 11:45, 11:131
Redmond, J. A., 13:97
Reifer, D. J., 11:159, 12:71
Richter, L., 12:55
Robillard, P. N., 12:263
Rokicki, T., 13:39
Russell, M., 12:219, 12:233

Selby, R. W., 12:209
Sheu, P. C.-Y., 11:21
Sibert, J., 12:139
Srimani, P. K., 11:111
Stavely, A. M., 11:3
Steinberg, E. R., 11:199

Taylor, D. J., 11:205
Törn, A. A., 12:39

Ural, H., 11:143

Wagner, M. P., 13:157
Wernhart, H., 12:157
Whale, G., 13:131
Whitty, R., 12:219, 12:277
Withrow, C., 12:199

Yuasa, T., 11:181

Zucconi, L., 12:71, 77
Zweben, S. H., 12:167